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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,495	10/16/2003	Daisuke Kitazawa	244077US90	5366

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EXAMINER	
MURPHY, RHONDA L	
ART UNIT	**PAPER NUMBER**
2462	

NOTIFICATION DATE	DELIVERY MODE
04/15/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/685,495	KITAZAWA ET AL.	
	Examiner	Art Unit	
	RHONDA MURPHY	2462	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 March 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6,8,10,12-20,22,24 and 26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,8,10,12-20,22,24 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/23/11 has been entered.

2. Accordingly, claims 7, 9, 11, 21, 23 and 25 have been canceled and claims 1-6, 8, 10, 12-20, 22, 24 and 26 are pending.

Response to Arguments

3. Applicant's arguments with respect to claims amended claims 1, 14 and 15 have been considered but are moot in view of the new ground(s) of rejection.

4. In addition, Examiner respectfully disagrees with applicant's arguments that Yoshida fails to teach the "*transmission order of each quantitative guarantee type packet in the quantitative guarantee type buffer being based on a corresponding quantitative value and independent of a respective mobile station from/to which the packet is received/transmitted*." Paragraphs 129 - 130 and Figures 20 and 21 illustrate multiple packet buffers associated with a particular rate class for multiple mobiles. For example, buffer rate class A includes packets for a particular rate and these packets are associated with mobiles 2012 and 2013. Each packet in the buffer has a particular rate

and is transmitted according to that particular rate (*transmission order*) and the order of the packets within the buffer include packets from various mobile stations, in other words, each buffer is not dedicated to a single mobile station (*independent of a respective mobile station from/to which the packet is received/transmitted*).

5. Thus, it is Examiner's position that the claim limitations have been met.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1 – 6, 8, 10, 12 – 20, 22, 24 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Forslow (US 6,937,566) in view of Immonen et al. (US

7,010,305), Hodgkinson et al. (US 7,209,437), Yoshida et al. (US 2002/0068588 A1) and Shimonishi (US 6,173,331).

Regarding claims 1, 14 and 15, Forslow teaches a radio communication system (*Figs. 2 and 8*) comprising: a plurality of mobile stations (*Fig. 2: laptop 14, mobile 16; Fig. 8: MS 12)* and a base station (*Fig. 2: BS 32, SGSN 51; also illustrated in Fig. 11*) comprising: a packet classification unit (*Fig. 11: Queues*) configured to classify each packet received/transmitted from/to a plurality of mobile stations into a quantitative guarantee type packet having a request value, which indicates a quantitative value for communication quality, included in the quantitative guarantee type packet (*col. 12, lines 27-36*) or a relative guarantee type packet included in or attributed to the relative guarantee type packet when the relative guarantee type packet is received and classified or classified and transmitted (*col. 10, lines 45-46: best effort quality of service; also described in col. 4, lines 29-34*), the request value indicating a quantitative value for communication quality (*col. 13, line 1: delay*), a quantitative guarantee type buffer configured to store the quantitative guarantee type packet (*Fig. 11: queues; col. 12, lines 33-36, 66-67; col. 13, lines 1-6*); a relative guarantee type buffer configured to store the relative guarantee type packet (*Fig. 11: queues; col. 12, lines 33-36, 66-67; col. 13, lines 1-6*); a transmission order controller (*located within BSS*) configured to control a transmission order of the packets for every classified quantitative guarantee type packet in the quantitative guarantee type buffer and every classified relative guarantee type packet in the relative guarantee type buffer (*col. 13, lines 2-6: controlled by BSS, having higher quality of service delay class frames transferred before lower*

quality of service delay class); and a radio resource assignment unit (*located within BSS*) configured to assign radio resources to the quantitative guarantee type packet in the quantitative guarantee type buffer and the relative guarantee type packet in the relative guarantee type buffer, according to the transmission order controlled by the transmission order controller (*col. 13, lines 43-47*).

Although Forslow teaches a relative guarantee type packet, Forslow fails to explicitly disclose a relative guarantee type packet *not having a request value*.

However, Immonen teaches a relative guarantee type packet *not having a request value* (*col. 9, lines 17-19, 24-27: does not have to request a desired QoS profile for requested transmission*).

In view of this, it would have been obvious to one skilled in the art at the time the invention was made to modify Forslow's system by incorporating the teaching of Immonen, for the purpose of allowing the base station/SGSN to select a default QoS profile when the user does not wish to request one (*col. 9, lines 24-27*).

Although Forslow teaches assigning radio resources to the quantitative guarantee type packet and the relative guarantee type packet, Forslow fails to explicitly teach wherein if radio resources still remain after assignment to the quantitative guarantee type packet in the quantitative guarantee type buffer, the radio resource assignment unit assigns remaining radio resources to the relative guarantee type packet in the relative guarantee type buffer.

However, Hodgkinson teaches if radio resources still remain after assignment to the quantitative guarantee type packet in the quantitative guarantee type buffer, the

radio resource assignment unit assigns remaining radio resources to the relative guarantee type packet in the relative guarantee type buffer (*col. 3, line 59 to col. 4, line 4*).

In view of this, it would have been obvious to one skilled in the art at the time the invention was made to assign remaining resources to the to the relative guarantee type packet, since the relative guarantee type packet is of a lower priority than the quantitative guarantee type packet and therefore, would utilize resources after higher priority packets.

Forslow fails to explicitly disclose the transmission order of each quantitative guarantee type packet in the quantitative guarantee type buffer being based on a corresponding quantitative value and independent of a respective mobile station from/to which the packet is received/transmitted.

However, Yoshida teaches the transmission order of each quantitative guarantee type packet in the quantitative guarantee type buffer being based on a corresponding quantitative value and independent of a respective mobile station from/to which the packet is received/transmitted (*see Fig. 20-21; buffers for rate classes for various mobiles; paragraphs 129 – 130*).

In view of this, it would have been obvious to one skilled in the art at the time the invention was made, to modify Forslow's system by incorporating the teachings of Yoshida, for the purpose of transmitting data from multiple mobile stations according to a particular class and enable transmission of higher priority data.

Forslow fails to explicitly disclose a measurement unit configured to measure communication quality for each request value, wherein the packet classification unit restrains storing a quantitative guarantee type packet in a transmission buffer for storing the packets, when a measured value by the measurement unit is more than a corresponding request value.

However, Shimonishi teaches a measurement unit configured to measure communication quality for each request value, wherein the packet classification unit restrains storing a quantitative guarantee type packet in a transmission buffer for storing the packets, when a measured value by the measurement unit is more than a corresponding request value (*col. 1, lines 56-60: discarded if the calculated value is greater than the decision threshold*).

In view of this, it would have been obvious to one skilled in the art at the time the invention was made, to modify Forslow's system by incorporating the teachings of Shimonishi, for the purpose of managing system load by ensuring a balanced utilization of resources.

Regarding claim 2, Forslow, Immonen, Hodgkinson, Yoshida and Shimonishi teach the base station of claim 1. Forslow further teaches wherein the transmission order controller gives priority to the quantitative guarantee type packet over the relative guarantee type packet, in the transmission order (col. 13, lines 2-6, 39-44).

Regarding claim 3, Forslow, Immonen, Hodgkinson, Yoshida and Shimonishi teach the base station of claim 1. Forslow further teaches wherein the transmission order

controller controls the transmission order based on a quality of service class (col. 13, lines 2-6, 39-44).

Regarding claim 4, Forslow, Immonen, Hodgkinson, Yoshida and Shimonishi teach the base station of claim 1, wherein the transmission order controller controls the transmission order based on radio quality between the base station and the plurality of mobile stations (col. 13, lines 44-47).

Regarding claim 5, Forslow, Immonen, Hodgkinson, Yoshida and Shimonishi teach the base station of claim 1. Forslow teaches wherein the transmission order controller controls a transmission order of a plurality of quantitative guarantee type packets having same request value, such that communication quality for the request value becomes same, among a plurality of mobile stations receiving/transmitting the quantitative guarantee type packets (col. 13, lines 31-36).

Regarding claim 6, Forslow, Immonen, Hodgkinson, Yoshida and Shimonishi teach the base station of claim 1. Immonen further teaches wherein the transmission order controller compares the request value with a measured value by the measurement unit, and controls the transmission order based on a comparison result (col. 9, lines 53-62).

Regarding claim 8, Forslow, Immonen, Hodgkinson, Yoshida and Shimonishi teach the base station of claim 1. Immonen further teaches wherein the transmission order controller controls the transmission order such that a number of the quantitative guarantee type packets transmitted in unit time becomes equal to a number of packets satisfying the request value (col. 12, lines 50-66).

Regarding claim 10, Forslow, Immonen, Hodgkinson, Yoshida and Shimonishi teach the base station of claim 1. Immonen further teaches wherein the radio resource assignment unit assigns the radio resources to the quantitative guarantee type packet based on the request value (col. 8, lines 30-40, 54-58).

Regarding claim 12 Forslow, Immonen, Hodgkinson, Yoshida and Shimonishi teach the base station of claim 1. Immonen further teaches a request value attached to a packet arrived from a core network, based on a quality of service class for the packet in the core network (col. 12, line 61 to col. 13, line 27), wherein the packet classification unit classifies a packet having the request value attached thereto into the quantitative guarantee type packet (col. 13, lines 9-14), and classifies a packet not having a request value attached thereto into the relative guarantee type packet (col. 13, lines 15-18).

Immonen fails to explicitly disclose an attaching unit to attach the request value.

However, Immonen does disclose a packet with an attached request value arrived from a core network.

In view of this, it would have been obvious to one skilled in the art to include an attaching unit for attaching the request value, in order to affix a particular request value to the packet.

Regarding claim 13, Forslow, Immonen, Hodgkinson, Yoshida and Shimonishi teach the base station of claim 1. Immonen further teaches a determination unit (located within SGSN 12) configured to determine a quality of service class in a core network for a packet (col. 8, lines 30-46), which has been received from a mobile station and is to

be transmitted to the core network, based on whether the packet is the quantitative guarantee type packet or the relative guarantee type packet (col. 8, lines 35-66).

Regarding claims 16, 18 and 20, Forslow, Immonen, Hodgkinson, Yoshida and Shimonishi teach the base station of claim 1. Immonen further teaches wherein the packet classification unit classifies the packet into a quantitative guarantee type packet having a request value for communication quality that is not a QoS class (col. 8, lines 51-58).

Regarding claims 17 and 19, Forslow, Immonen, Hodgkinson, Yoshida and Shimonishi teach the base station of claim 16. Forslow further teaches wherein the packet classification unit classifies the packets into a quantitative guarantee type packet having a request value for at least one of a specific quantity of at least one of a transfer speed, a transfer delay or jitter (col. 13, lines 1-6).

Regarding claims 22, 24 and 26, the combined teachings of Forslow, Immonen, Hodgkinson, Yoshida and Shimonishi describe the base station and method of claims 1, 14 and 15, wherein Hodgkinson further teaches if radio resources still remain after assignment to the relative guarantee type packets, the radio resource unit assigns the further remaining radio resources to the quantitative guarantee type packet further remaining in the quantitative guarantee type buffer (col. 3, line 59 to col. 4, line 4).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RHONDA MURPHY whose telephone number is

(571)272-3185. The examiner can normally be reached on Monday - Friday 9:00 - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Seema S. Rao/
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